AGUSTA A109K2 mini Titan E325 CONVERSION KIT
AGUSTA A109K2 mini Titan E325升級套件



1/15 SCALE

No.3876

⚠ This radio-controlled model helicoptor is not a toy! Before assembly, please read this manual thoroughly.
本產品為高性能遙控模型一非玩具，組裝與操作前請詳閱本產品說明書。

The parts are subject to change without prior notice due to product improvements and specification changes.
本套件所附之零件可能跟圖示有所差異。因產品後續之設計研發或功能不斷改善之因，我們將保留產品規格變更權利，不再另行通知使用者。

Assembly Manual & Parts Catalogue 組裝說明書及零件包型錄

Introduction 前言

Thank you for purchasing this Thunder Tiger product. This manual includes the steps and instructions required to assemble your A109 K2 helicoptor. Please read this manual completely before attempting to start assembly. Follow the directions in this manual closely to reduce problems during operation. We offer online help on our www.acehobby.com or www.thundertiger.com and our product specialists are ready to take your call if you have any technical questions. Have fun and enjoy the exciting world of R/C.

感謝您購買雷虎技mini Titan E325 AGUSTA A109 K2 升級套件。雷虎技一向以提供最高品質的產品及服務作為持續努力的目標，期望能呈現給您最頂級之工藝產品。本使用說明書包含了組裝及維修本產品前所需注意的重要事項，建議您在開始組裝及維修本產品之前，能詳閱此說明書，並熟悉本產品之組裝步驟及維修程序。若是您在產品的使用上有任何的疑問，歡迎多加利用我們所提供的24小時諮詢留言版或洽詢雷虎技授權經銷商。雷虎技的全球英文網址為www.thundertiger.com 中文網址為www.tiger.com.tw，我們將竭誠為您服務！

CONTENTS 目 錄

INTRODUCTION

Thank you for purchasing the Thunder Tiger A109 Cobra scale helicopter conversion kit. This conversion kit is designed especially for mini Titan E325. The PVC body are included in the kit. There are clear body and 2 types of painting scheme for your choices. You need to disassemble the original E325 first then follow the assembly steps to get the A109 ready. Please retain the user manual in case you need it for any information or reference.

NOTICE

1. R/C models are not toys. This product is a high-precision flying machine.Possibilities of unexpected crashes may occur due to electronic interference, incorrect operation, or poor mechanical maintenance. Although it is a small-sized helicopter, the rotor blades rotate at high speeds, which may cause serious damage, injury, or death if the model hits people or property. Therefore, extreme caution must be exercised during operation.
2. Thunder Tiger ensures parts packaged in this product is of the highest quality.However, after assembly and usage, parts damaged due to wear or misuse will not be replaced under any circumstances. If you have any questions regarding its operation and repair, Thunder Tigers service agents are able to provide free technical guidance.
3. This product is only recommended for users ages 16 and up. Because flying a R/C helicopter is difficult, beginners must receive guidance and supervision from experienced pilots to minimize unexpected danger. Practice in spacious areas, far away from obstacles such as buildings, trees, electrical towers, or crowds.
4. To decrease the cost of repair and maintenance for beginners, it is recommended to fly the helicopter with a practice rack and to learn basic flying skills with a computer R/C flying simulator. (Crashes in simulators are free to repair!)

Operating a model helicopter requires a high degree of responsibility and skill. If you are a newcomer to the hobby, it is best to seek help and guidance from accomplished model helicopter pilots. This will greatly speed up the learning process and have you flying successfully in a reasonable amount of time. We also would strongly urge you to join the Academy of Model Aeronautics. The AMA is a non-profit organization that provides its members with a liability insurance plan as well as monthly magazine entitled Model Aviation. All AMA charter aircraft clubs require all pilots to hold a current AMA sporting license prior to operation of their models at club fields.

For further information, contact the AMA at:
Academy of Model Aeronautics
5151 East Memorial Drive
Muncie, IN 47302
(317) 287-1256

簡介

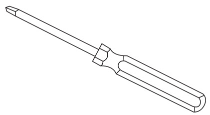
感謝您購買雷虎科技的A109像真機改裝套件。它是專門為mini Titan E325所設計的像真機殼，套件裡面包含了PVC材質的像真機身。廠並提供了包含透明機身，藍白及紅白等二種塗裝以供選購。請詳閱本說明書，以瞭解解與組裝步驟，並妥善保存本說明書，以備查詢。

注意事項

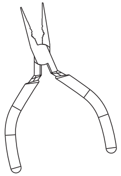
1. 本項遙控直昇機產品並不是玩具，是一項結構精密、高專業度模型產品，如果未經正確組裝與操控，將可能對操控者或其他人造成身體傷害。使用者必須了解，若未確實進行飛行前安全檢查或操控不，而造成人員受傷或物體損壞，使用者必須負起法律責任。
2. 本產品由高品質零組件組成，雷虎科技對於安裝過程、使用過後..等人為因素造成損壞事件不負損壞賠償之責。如您需要本產品相關組裝、調整或其他協助，可與雷虎科技全省經銷商聯繫。
3. 本項產品禁十六歲以下青少年與孩童使用。強烈建議初學者應取得技術支援後再進行飛行，以避免危險發生。請於空曠地區操控本產品，並避免於建築物、樹、電塔..等障礙物區飛行。
4. 建議初學者可安裝練習架或透過電腦模擬軟體練習，可達實際練習效果與符合經效益。

操控遙控直昇機對於飛行安全要求極高，需要高度的負責任態度配合，以及較高的操控技巧。如果您是一初學者，您必須向台灣地區專業模型經銷商，或是台灣地區遙控直昇機相關組織以及經驗豐富的玩家尋求相關協助，以獲得您所需要的訊息以及專業知識。如此可有效協助您縮短學習的時間，更容易學會遙控直昇機的組裝、設定與操控技巧。

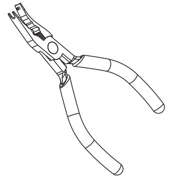
TOOLS REQUIRED FOR ASSEMBLY 組裝工作所需工具



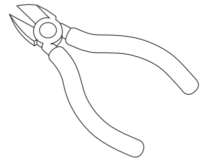
Screw Driver
螺絲起子



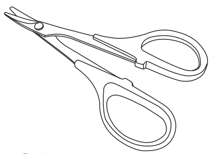
Needle Nose Pliers
尖嘴鉗



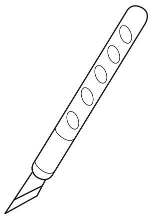
Ball Link Pliers
連專用鉗



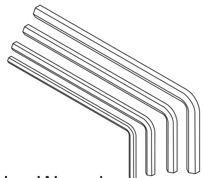
Nipper
斜口鉗



Scissors
剪刀



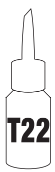
Hobby Knife
模型專用美工刀



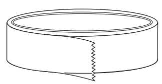
Hex Wrench
六角板手



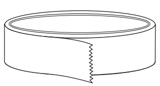
CA Glue
瞬間膠



Threadlocking
螺絲防鬆膠



Clear Tap
透明膠帶



Double Side Tap
雙面膠帶

SYMBOLS USED THROUGHOUT THE MANUAL 符號說明

Apply C.A Glue
使用快乾膠黏合

Assemble in right order
依標示順序組裝

Drill holes with the specified diameter
依標示尺寸鑽孔

Hint
組裝提示

Must be purchased separately
改裝品需另購

Cut off shaded portion
依標示部分裁切

Ensure smooth, non-binding movement when assembling
確認組件靈活度

Pay close attention here
注意組裝步驟

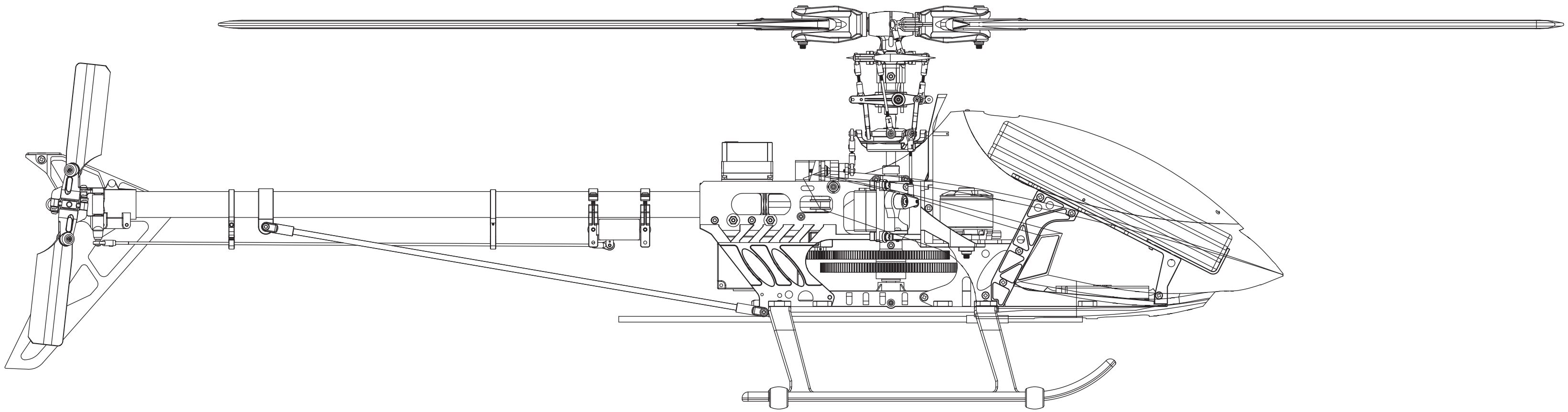
Apply threadlocker
使用螺絲防鬆膠

Cut off excess
裁剪多餘部分

Assemble left and right side the same way
左右側組裝方式相同

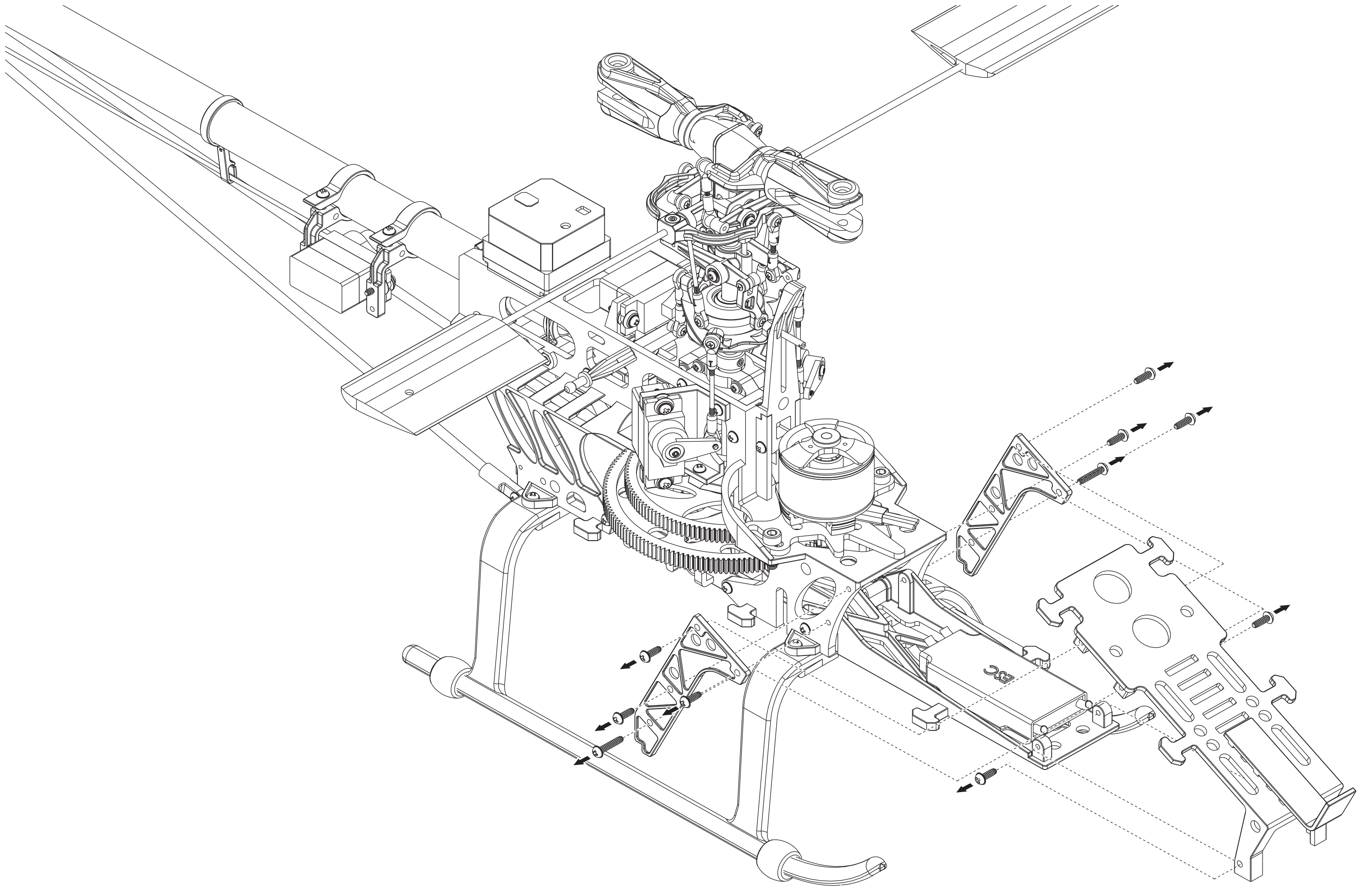
Decal apply
貼紙優先黏貼處

DISASSEMBLY / 原機拆解

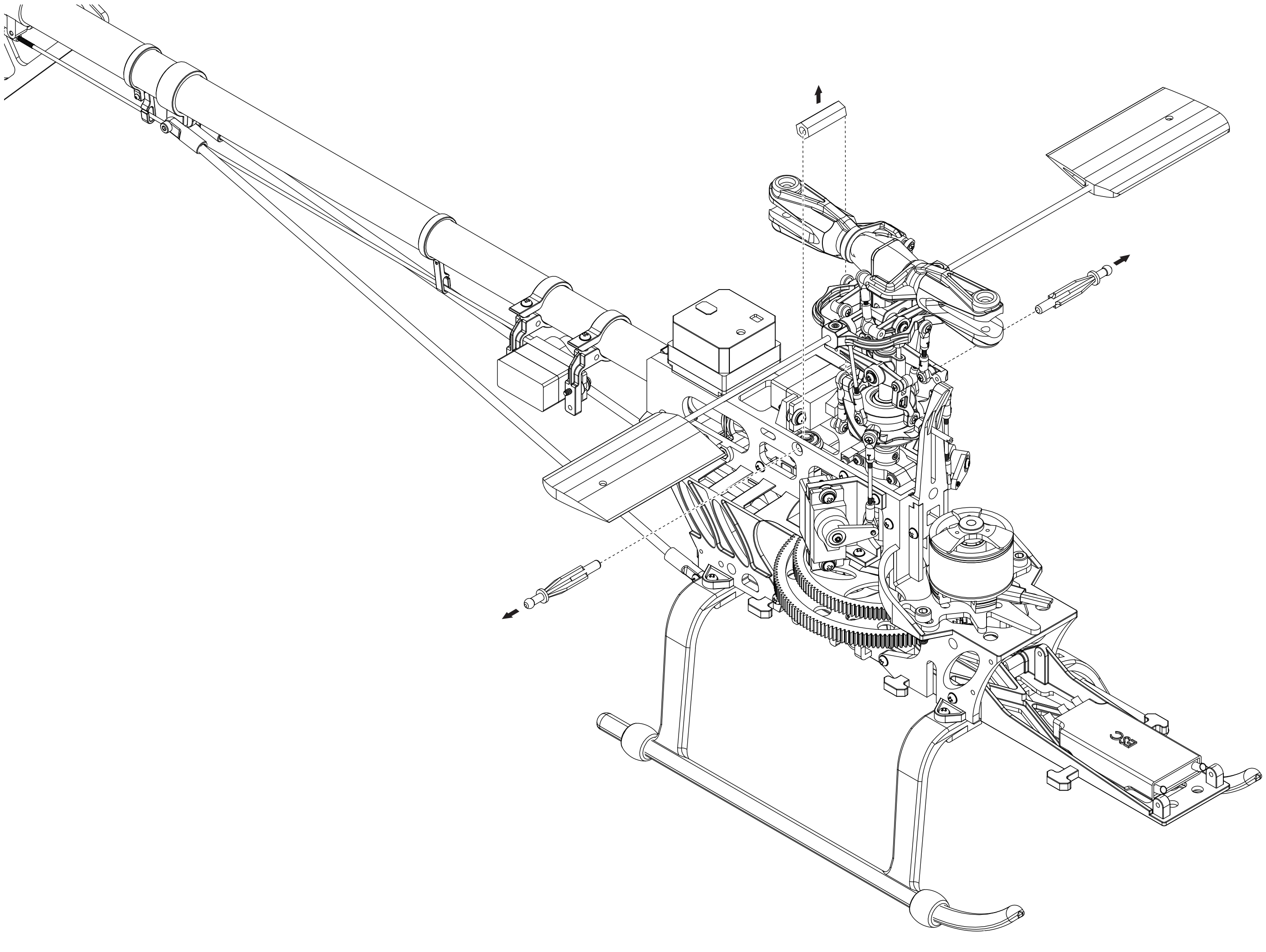


In order to convert the standard E325 into an A109 gunship, please follow the steps disassembling the helicopter first. Please collect the disassembled parts and don't get them lost. You need some of them to be the spares.
請依照說明書步驟分解直昇機，並妥善保存解後的零件，其餘零件可做為備品使用。

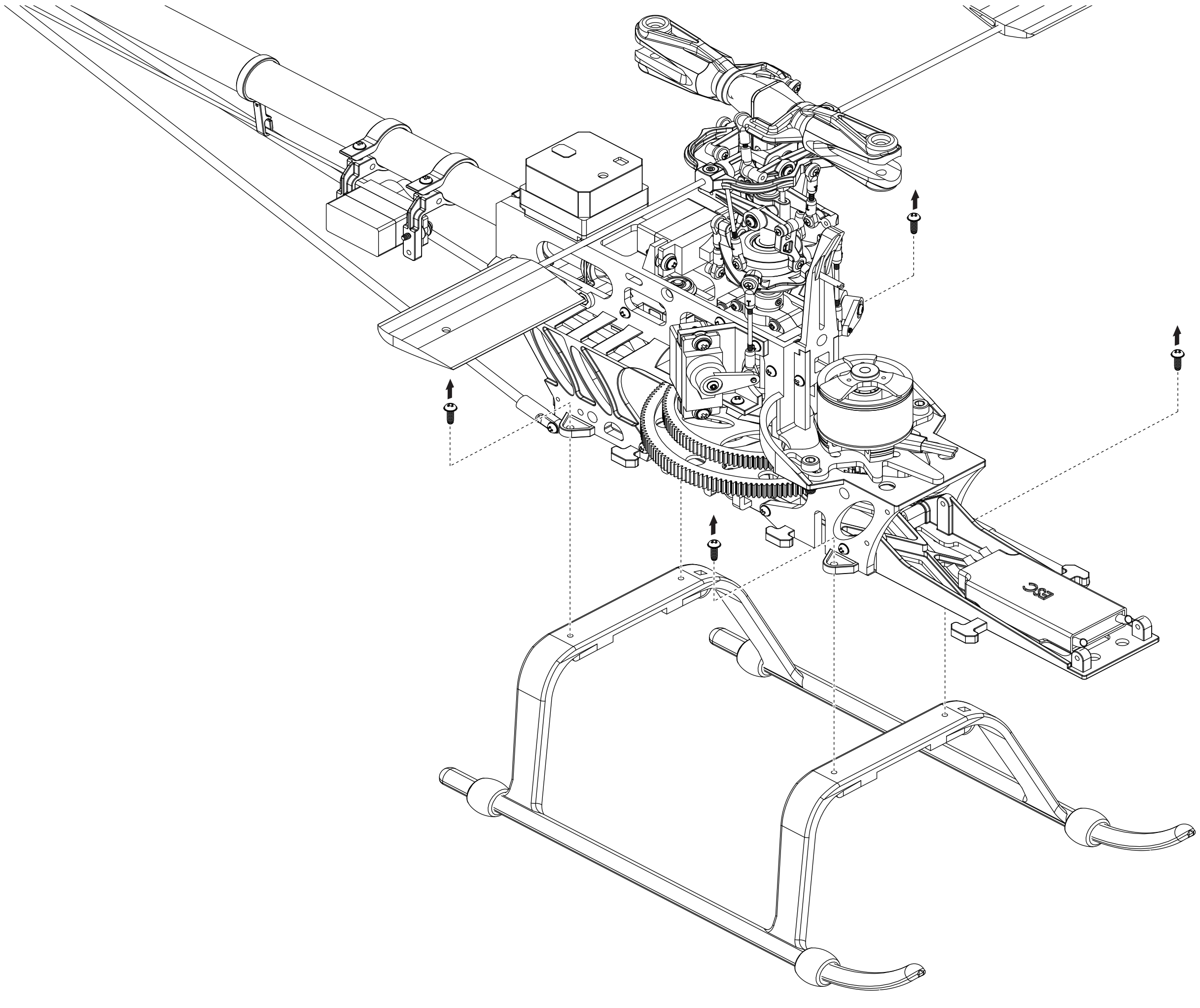
1. BATTERY TRAY DISASSEMBLY / 電池座分解



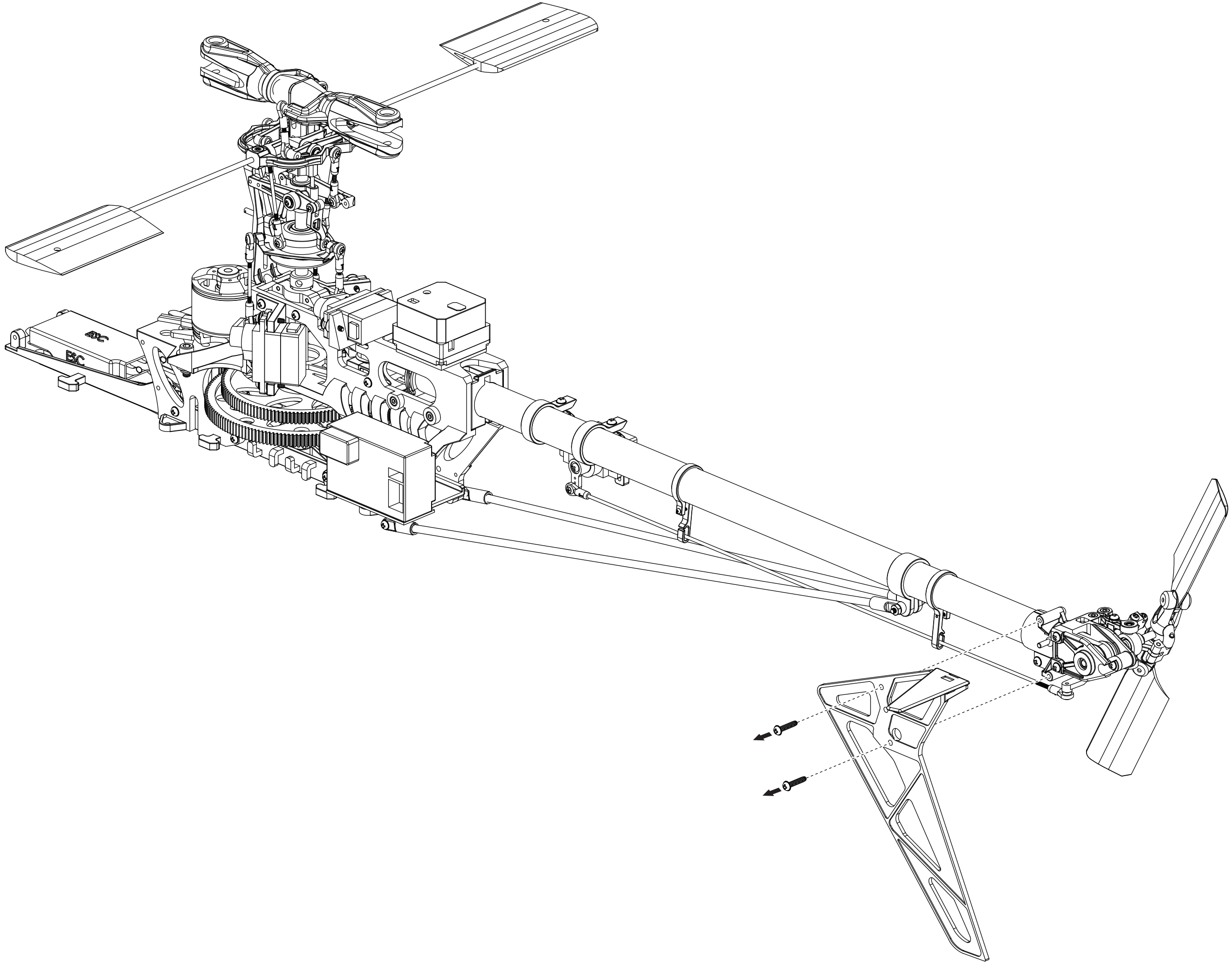
2. CANOPY RETAINING POST / 機殼支柱分解



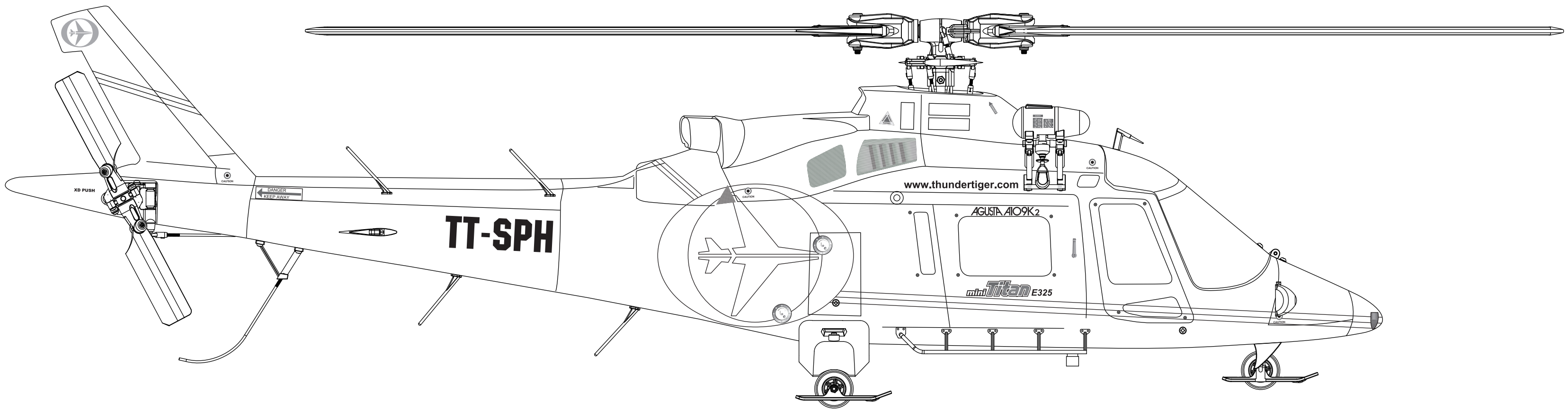
3. LANDING SKID DISASSEMBLY / 腳架分解



4. VERTICAL FIN DISASSEMBLY / 垂直尾翼分解



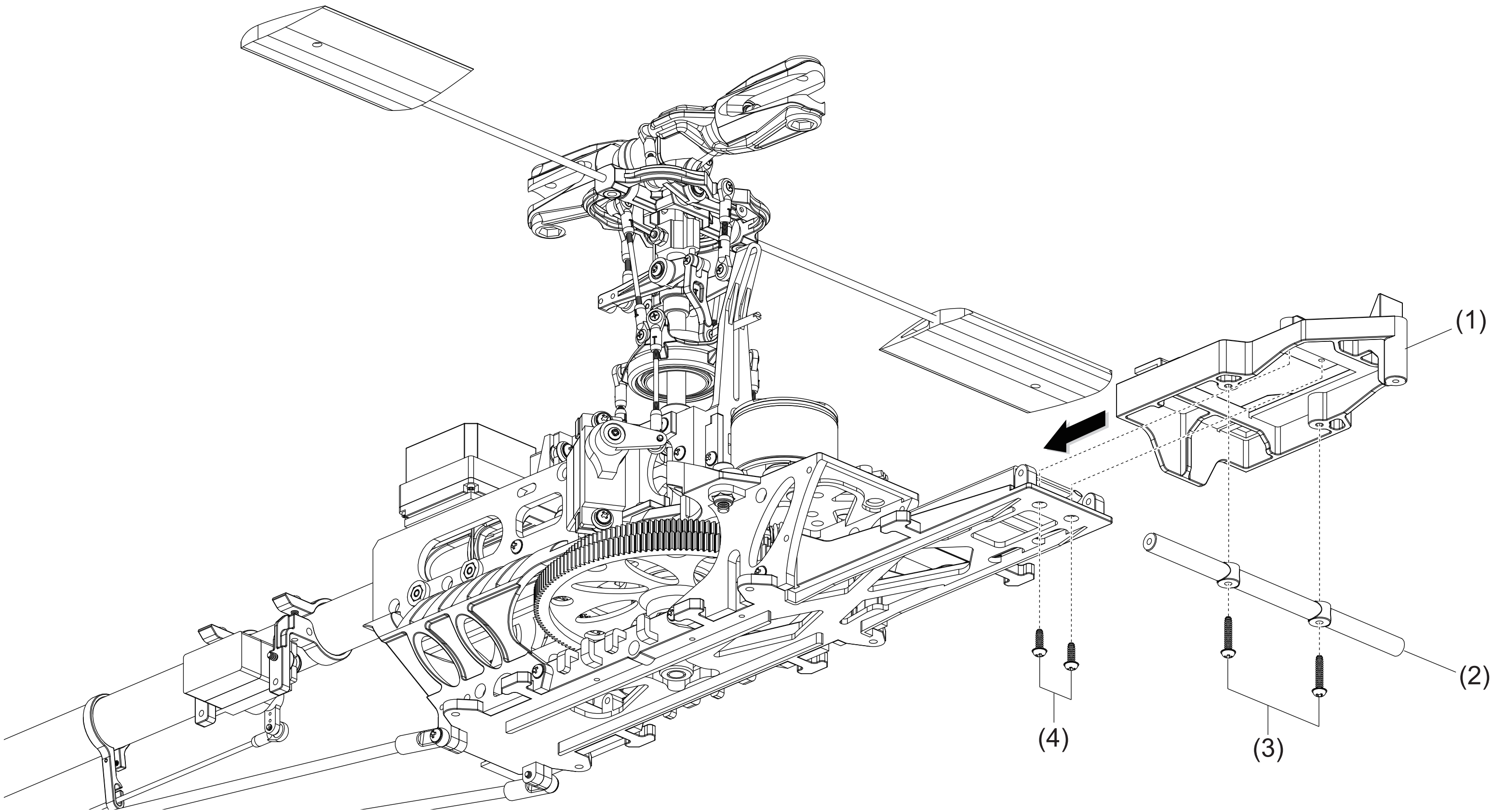
ASSEMBLY / 組裝



After disassembly plwase follow the steps to re-build the model. Please also note some of the disassmbled parts are necessities.
在拆解零件後，請依步驟重新組裝直昇機，請注意部份零件須重覆使用。

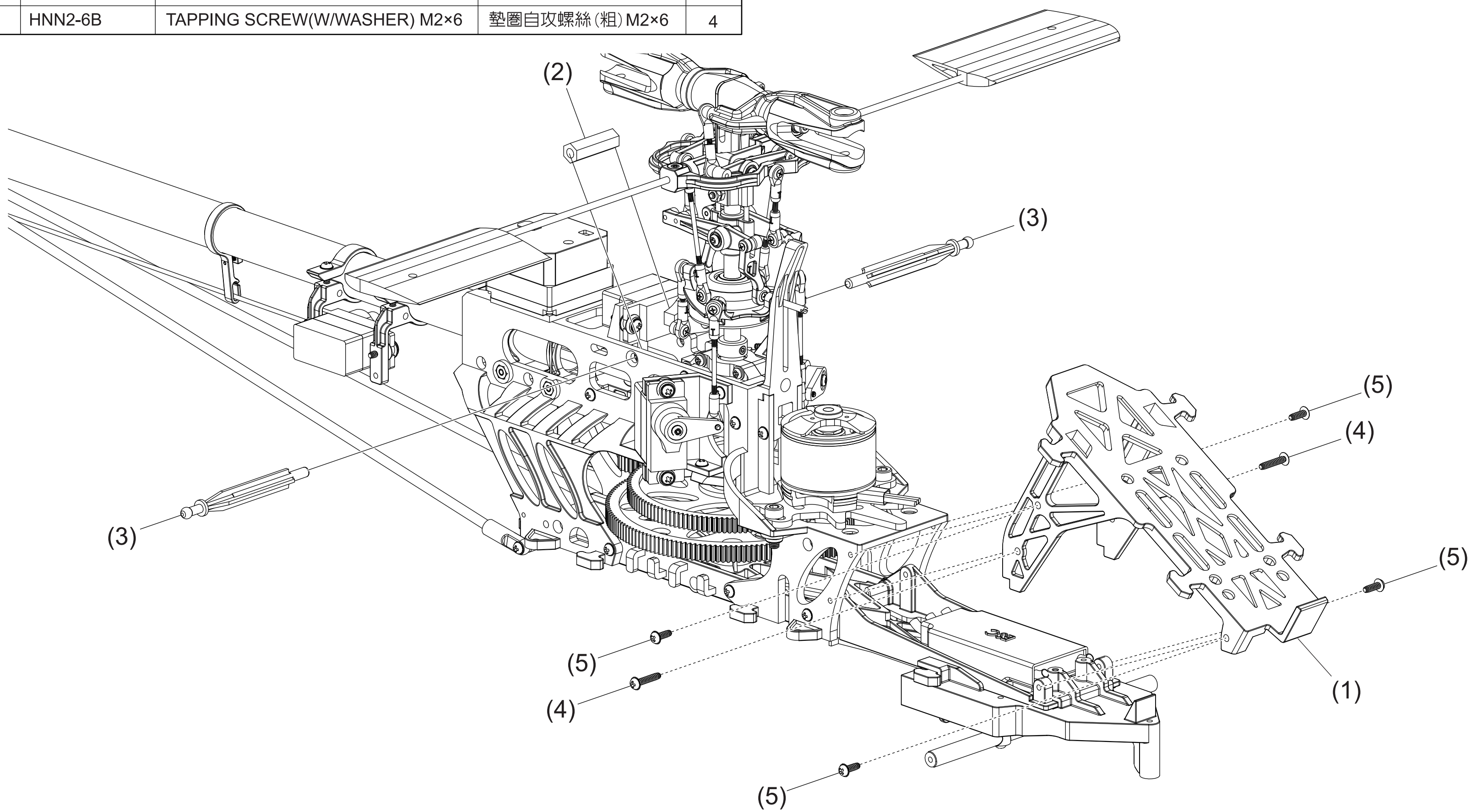
FRONT GEAR SET ASSEMBLY / 前輪座組裝

No.	Material No.	Description	中文名稱	Qty
1	BK1801	FRONT GEAR RACK	前輪支架	1
2	BK1806	BODY SUPPORT(F)	前機殼支柱	1
3	HNN2-10B	TAPPING SCREW(W/WASHER) M2×10	墊圈自攻螺絲(粗)M2×10	2
4	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗)M2×6	2



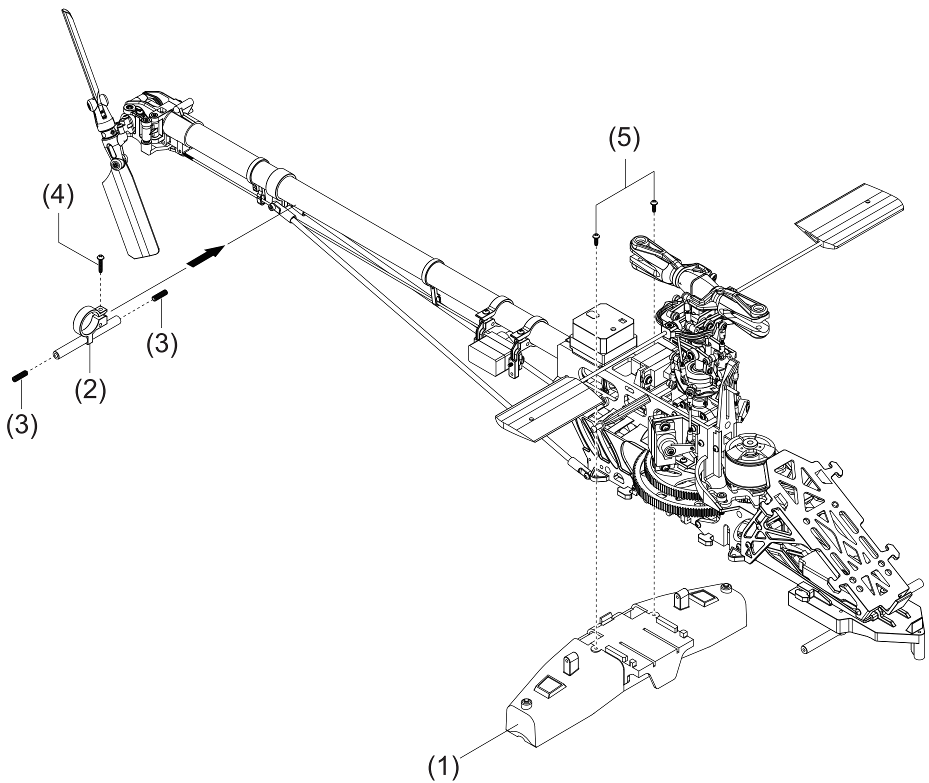
A109 RETAINING POST & NEW BATTERY TRAY ASSEMBLY / 機殼支柱＆一體式電池座組裝

No.	Material No.	Description	中文名稱	Qty
1	BK1012	ONE PIECE BATT. TRAY	一體式電池座	1
2	BK1056	SUPPORT POST	六角棒18L	1
3	BK1807	BODY SUPPORT(B)	後機殼支柱	2
4	HNN2-10B	TAPPING SCREW(W/WASHER) M2×10	墊圈自攻螺絲(粗)M2×10	2
5	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗)M2×6	4

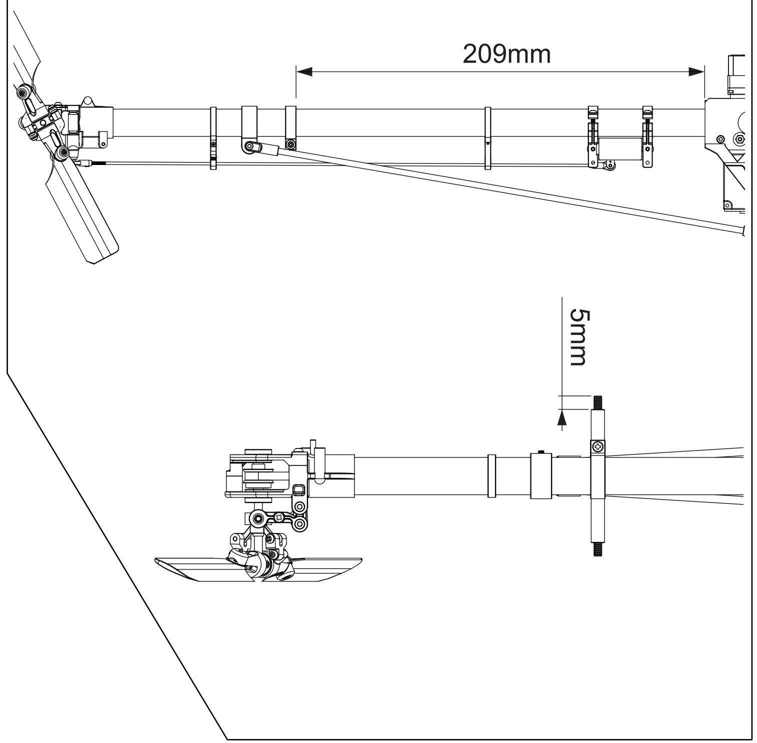


REAR GEAR & H FIN BRACKET ASSEMBLY / 後輪座及水平尾翼座組裝

No.	Material No.	Description	中文名稱	Qty
1	BK1802	REAR GEAR SET	後輪座	1
2	BK1803	H. FIN BRACKET	水平尾翼支架	1
3	HME3-10B	SET SCREW(M3×10)	無頭內六角螺絲M3×10	2
4	HNN2-10B	TAPPING SCREW(W/WASHER) M2×10	墊圈自攻螺絲(粗)M2×10	1
5	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗)M2×6	2



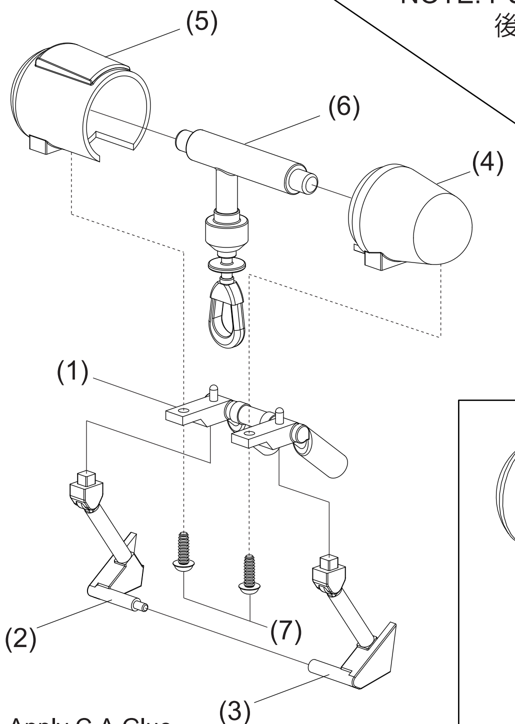
Note:

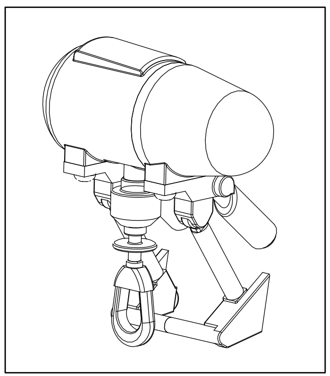


ACCESSORIES ASSEMBLY / 配件組裝（一）

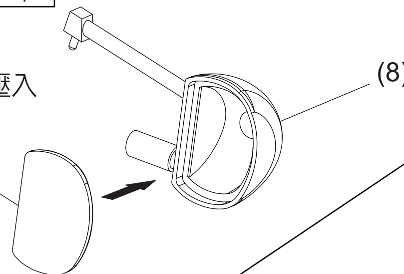
No.	Material No.	Description	中文名稱	Qty
1	BK1809	UP POST	纜繩器上支架	1
2	BK1810	POST-A	纜繩器下支架-A	1
3	BK1838	POST-B	纜繩器下支架-B	1
4	BV1811	FRONT-COVER	纜繩器前蓋	1
5	BV1812	REAR-COVER	纜繩器後蓋	1
6	BV1834	HOOK	掛勾	1

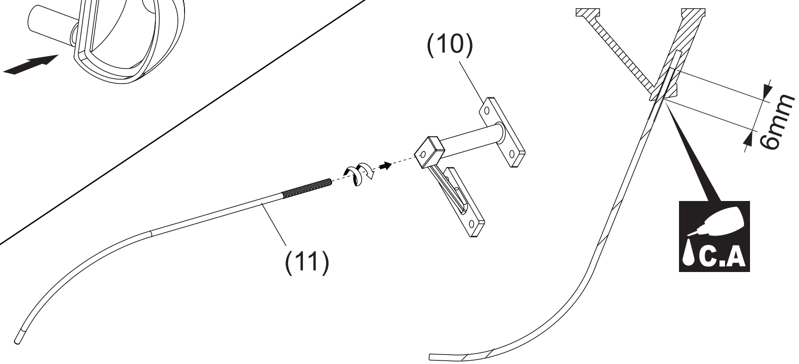
No.	Material No.	Description	中文名稱	Qty
7	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗) M2×6	2
8	BK1817	MIRROR POST	後視鏡架	1
9	BK1833	MIRROR	後視鏡面	1
10	BK1819	TAIL SKID BASE	尾翼防撞桿座	1
11	BK1463	TAIL SKID（74.6mm）	尾翼防撞桿（74.6mm）	1



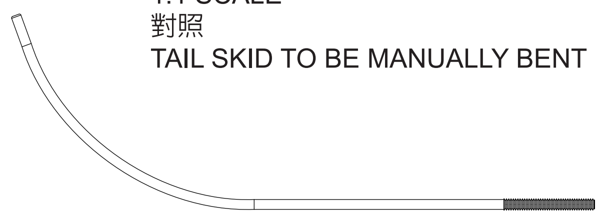


NOTE: PUSH IN MIRROR
後視鏡片R角向內壓入





1:1 SCALE
對照
TAIL SKID TO BE MANUALLY BENT

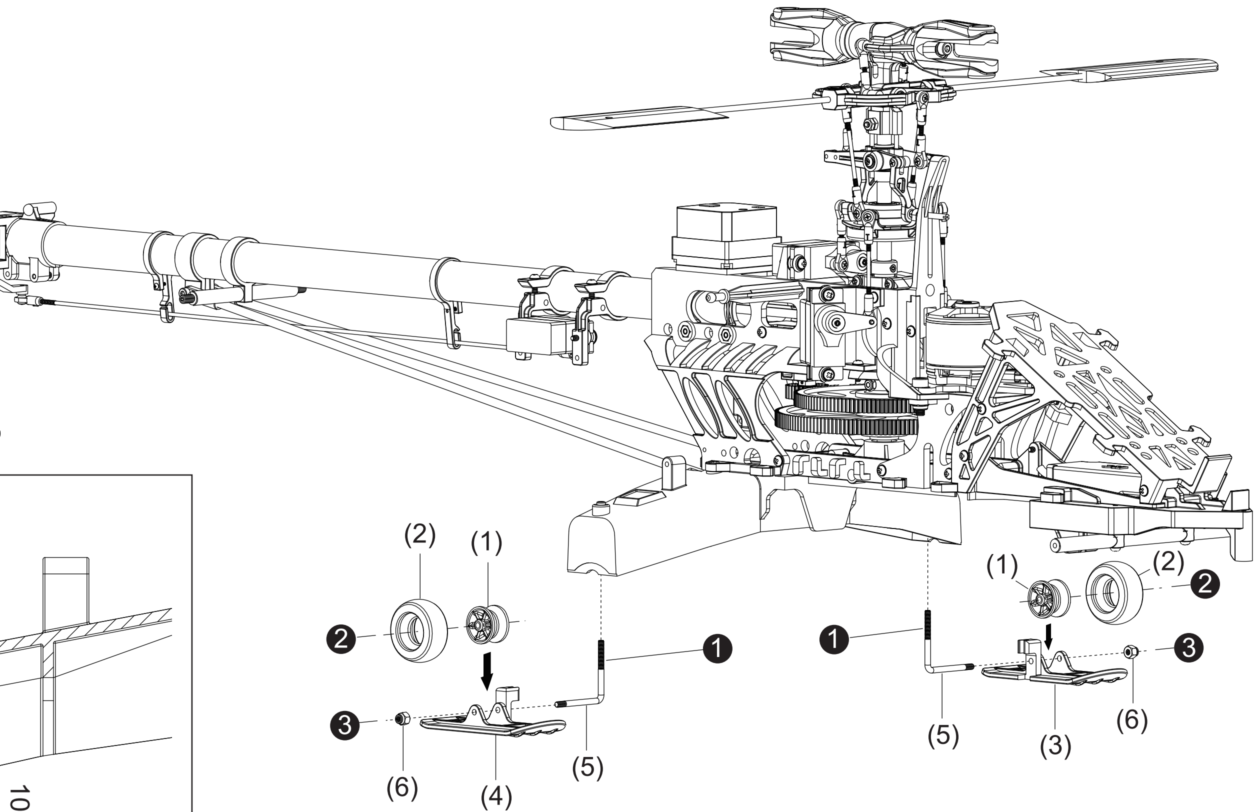


Apply C.A Glue
使用快乾膠黏合

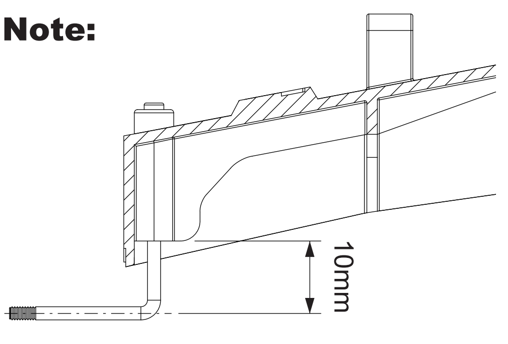
REAR GEAR ASSEMBLY / 後輪組裝

No.	Material No.	Description	中文名稱	Qty
1	BK1815	WHEEL	輪框	2
2	BK1835	TIRE	輪胎	2
3	BK1821	LEFT SKI	雪橇板-左	1

No.	Material No.	Description	中文名稱	Qty
4	BK1822	RIGHT SKIS	雪橇板-右	1
5	BK1518	REAR GEAR POST	後腳架	2
6	HMM2Z	LUCK NUT	止鬆螺帽	2



Note:

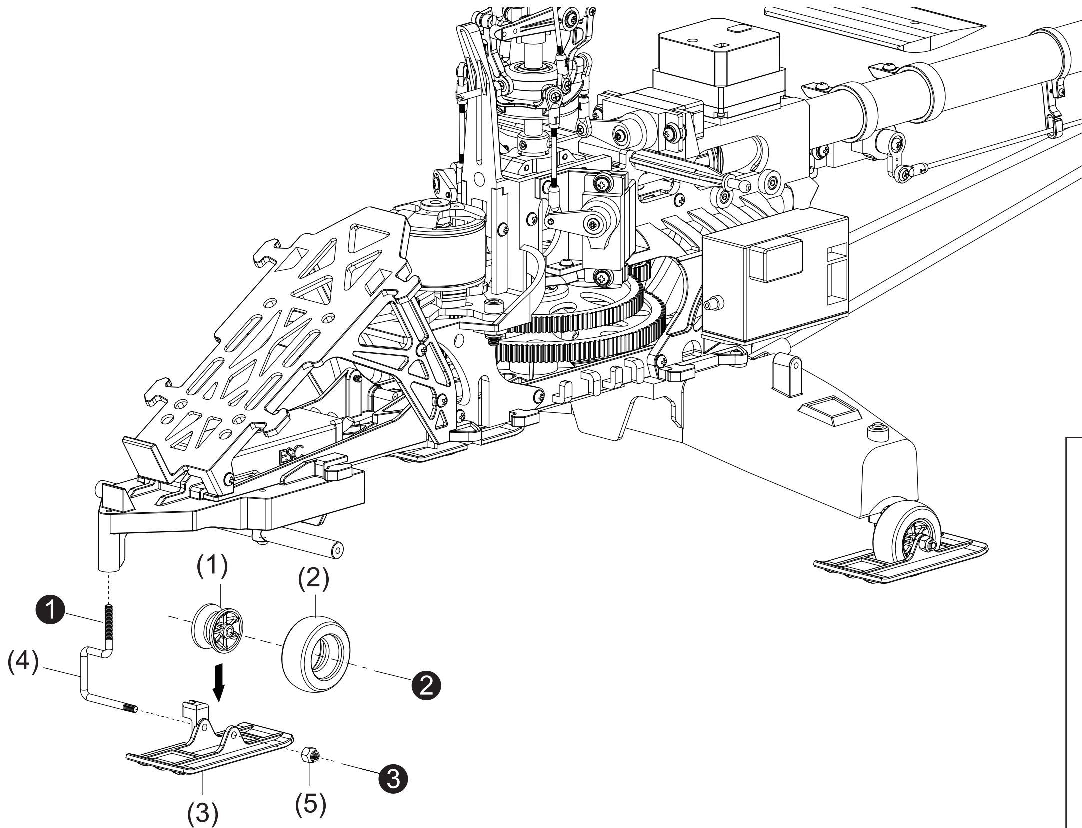


①→②→③ Assemble in right order
依標示順序組裝

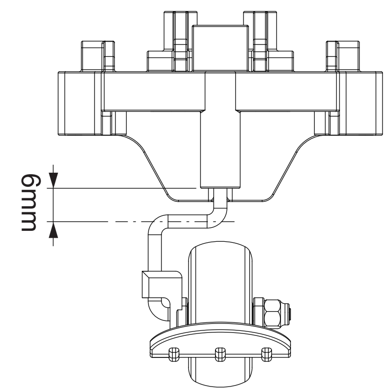
FRONT GEAR ASSEMBLY / 前輪組裝

No.	Material No.	Description	中文名稱	Qty
1	BK1815	WHEEL	輪框	1
2	BK1835	TIRE	輪胎	1
3	BK1820	FRONT SKI	前雪橇板	1

No.	Material No.	Description	中文名稱	Qty
4	BK1517	FRONT GEAR POST	前腳架	1
5	HMM2Z	LUCK NUT, M2	止鬆螺帽	1

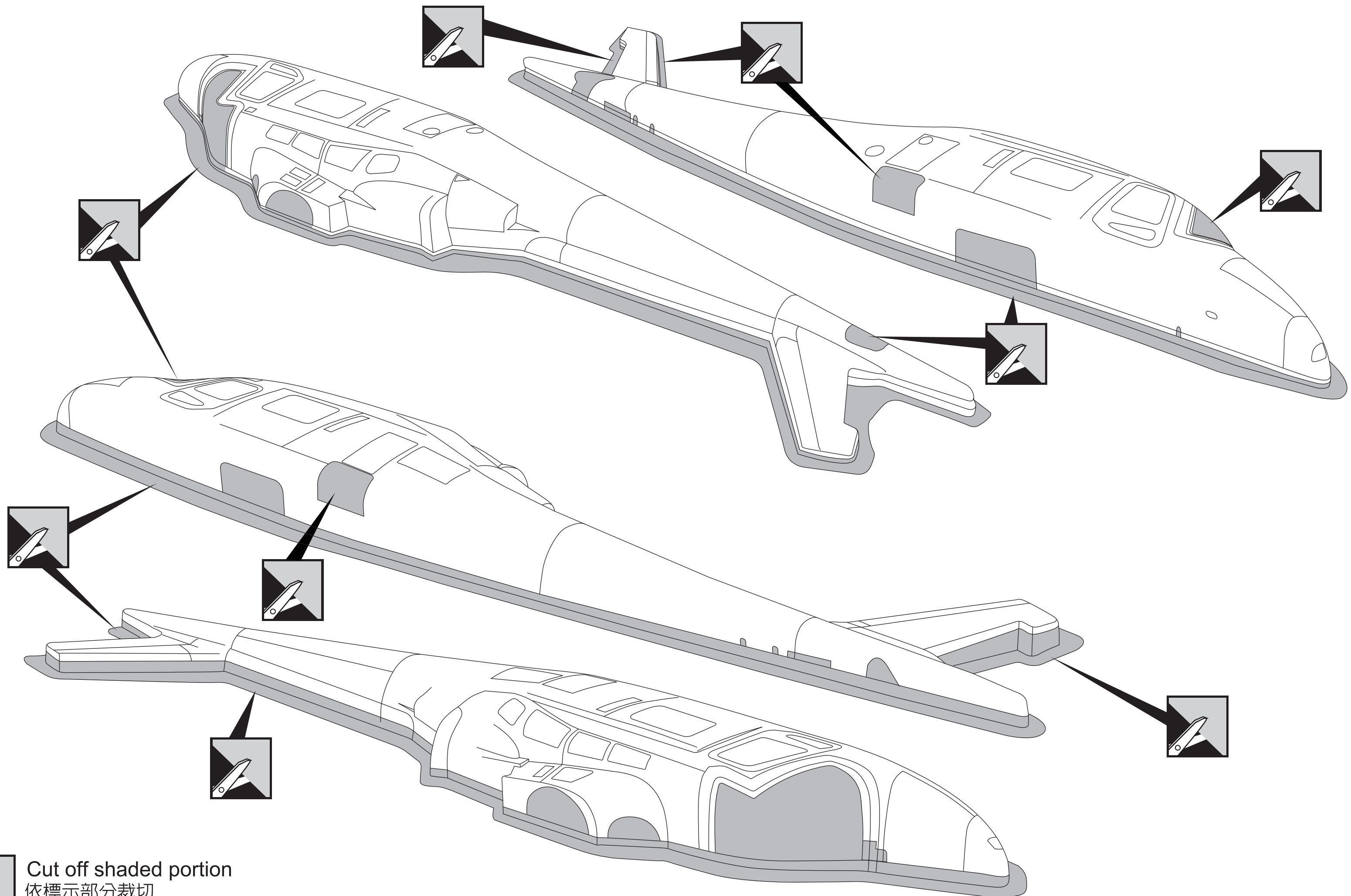


Note:



①→② ③ Assemble in right order
依標示順序組裝

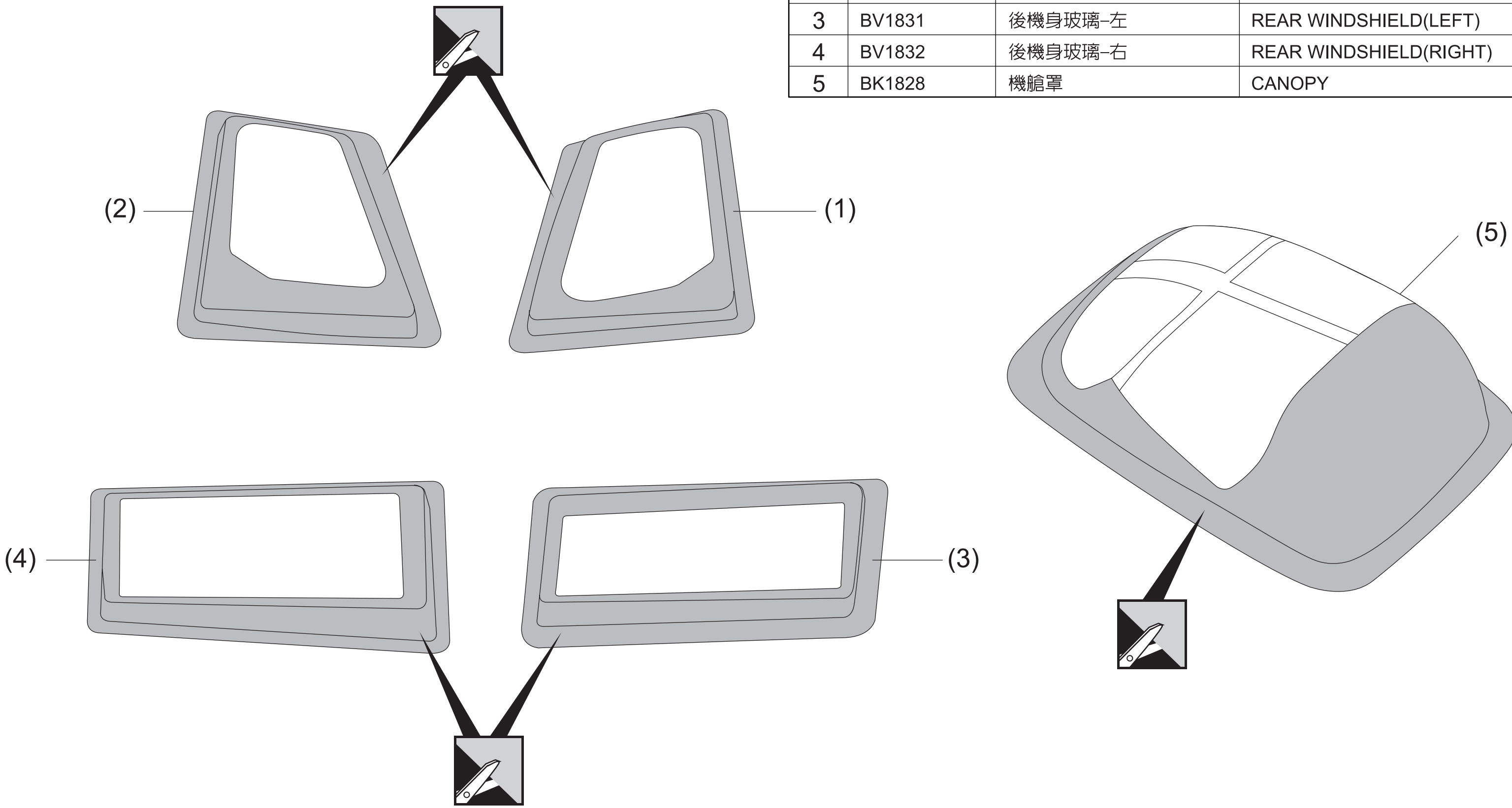
BODY CUTING / 機身剪裁



Cut off shaded portion
依標示部分裁切

ACCESSORIES CUTING / 窗戶、機艙罩剪裁

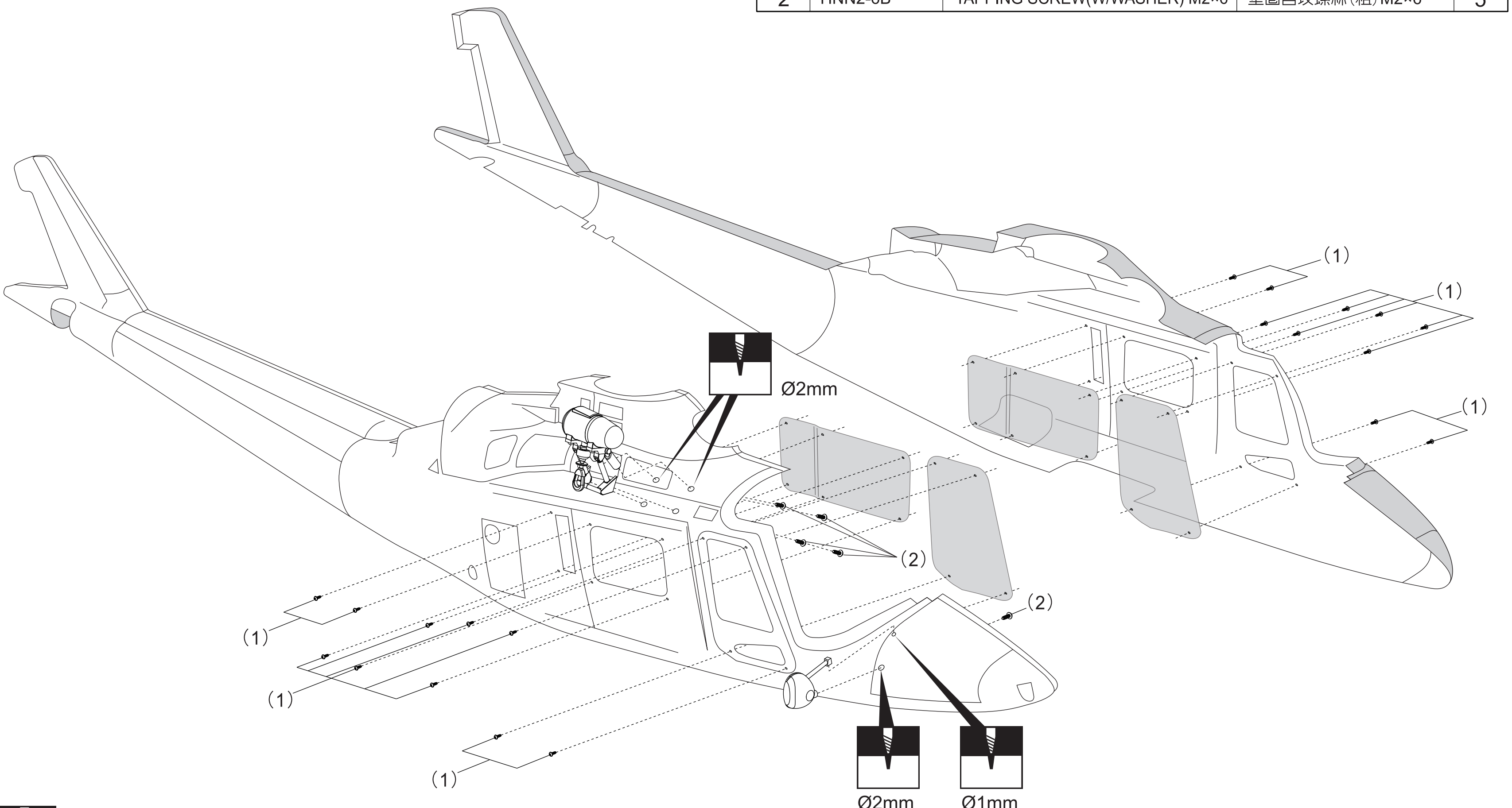
No.	Material No.	Description	中文名稱	Qty
1	BV1829	前機身玻璃-左	FRONT WINDSHIELD(LEFT)	1
2	BV1830	前機身玻璃-右	FRONT WINDSHIELD(RIGHT)	1
3	BV1831	後機身玻璃-左	REAR WINDSHIELD(LEFT)	1
4	BV1832	後機身玻璃-右	REAR WINDSHIELD(RIGHT)	1
5	BK1828	機艙罩	CANOPY	1



Cut off shaded portion
依標示部分裁切

ACCESSORIES ASSEMBLY / 鎖玻璃、後視鏡、纜繩器

No.	Material No.	Description	中文名稱	Qty
1	HMJ12-3B	TAPPING SCREW M1.2×3	圓頭自攻螺絲(細) M1.2×3L	20
2	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗) M2×6	5

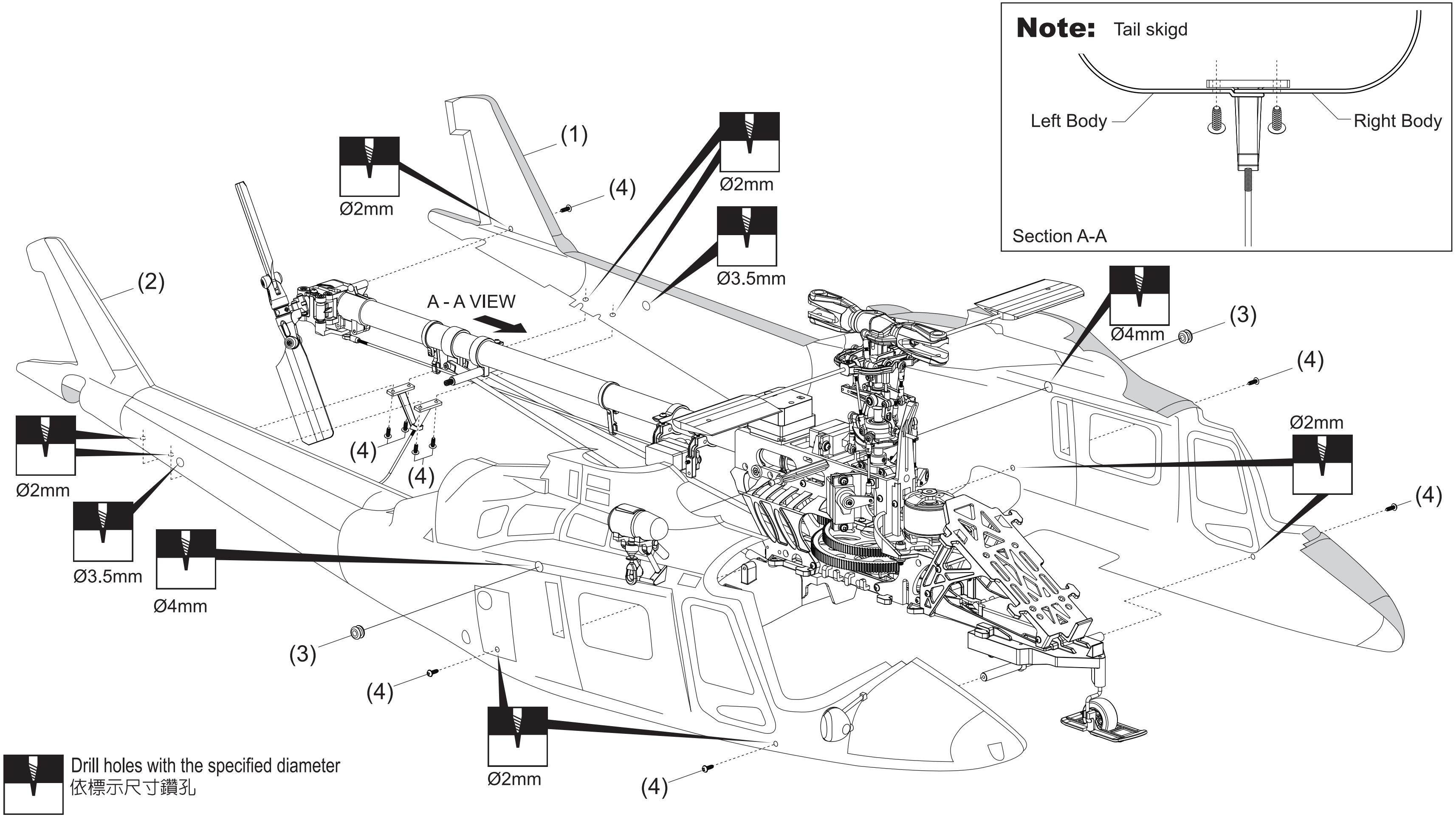


Drill holes with the specified diameter
依標示尺寸鑽孔

BODY ASSEMBLY / 左右機殼鎖固 (1)

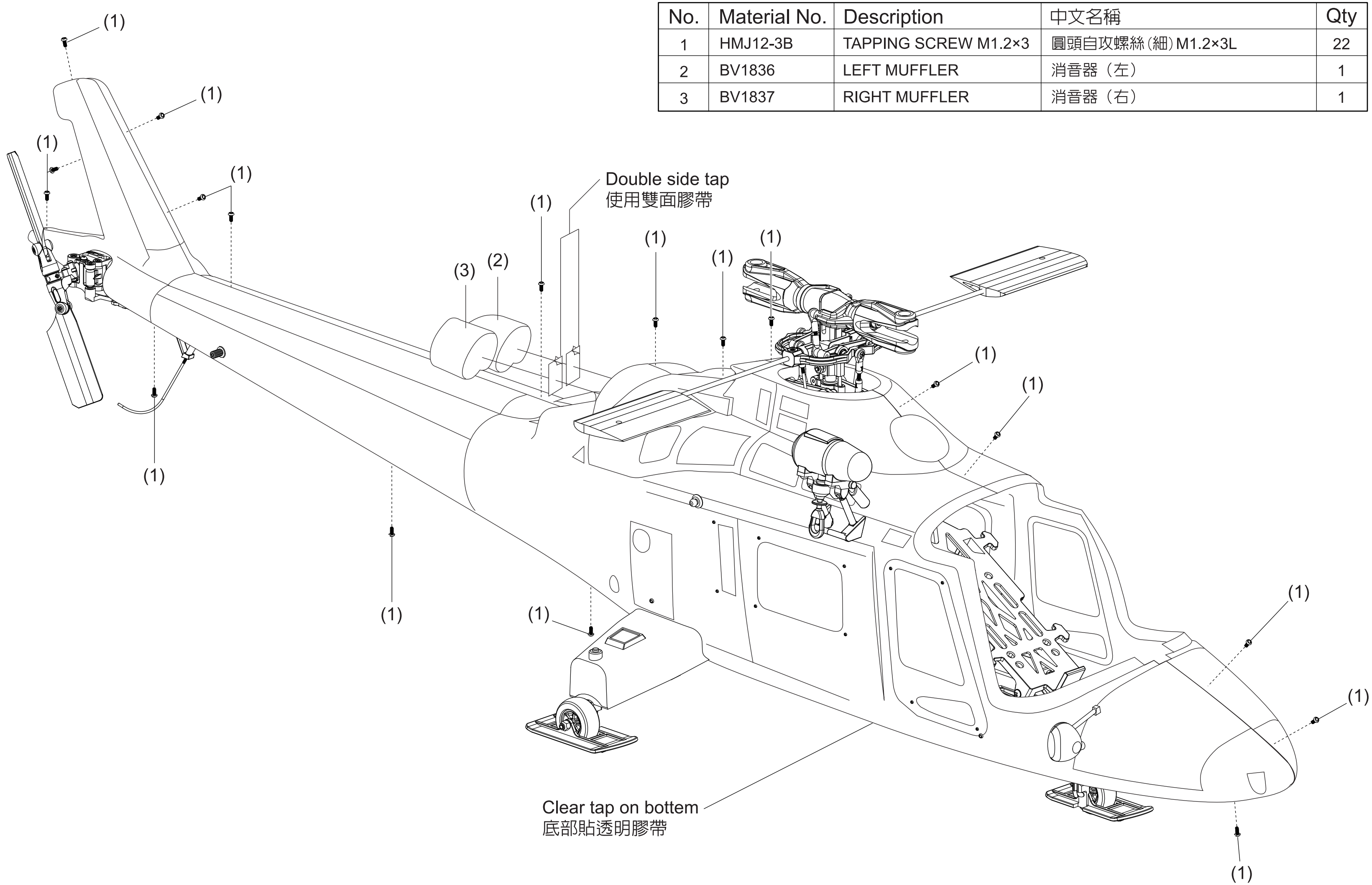
No.	Material No.	Description	中文名稱	Qty
1	BK1826	LEFT BODY	機身–左	1
2	BK1827	RIGHT BODY	機身–右	1

No.	Material No.	Description	中文名稱	Qty
3	BK1002	RUBBER GROMMET	機身固定墊圈	2
4	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗) M2×6	9



BODY ASSEMBLY / 左右機殼鎖固 (2)

No.	Material No.	Description	中文名稱	Qty
1	HMJ12-3B	TAPPING SCREW M1.2×3	圓頭自攻螺絲(細)M1.2×3L	22
2	BV1836	LEFT MUFFLER	消音器（左）	1
3	BV1837	RIGHT MUFFLER	消音器（右）	1



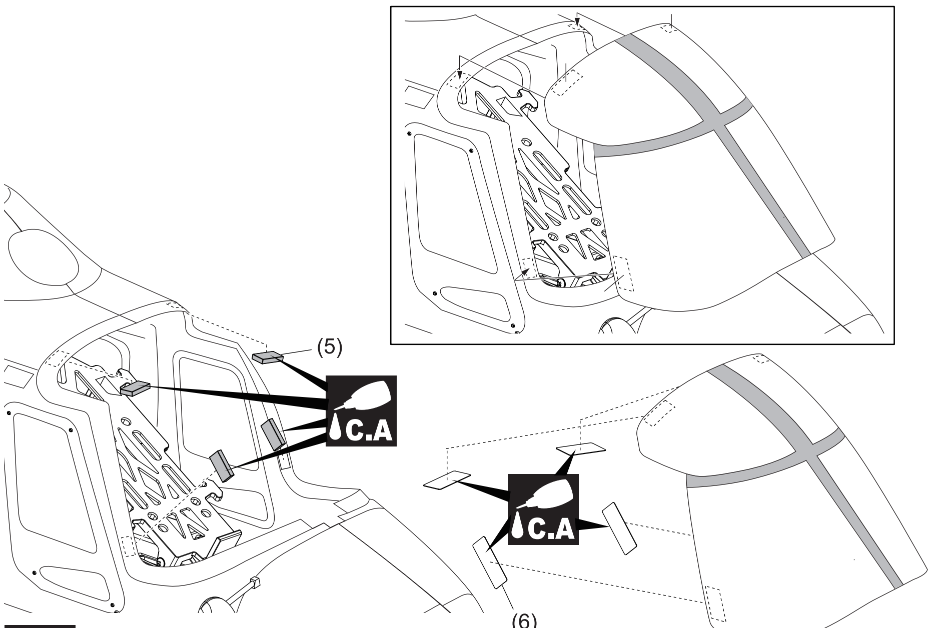
CANOPY ASSEMBLY / 機艙罩組裝

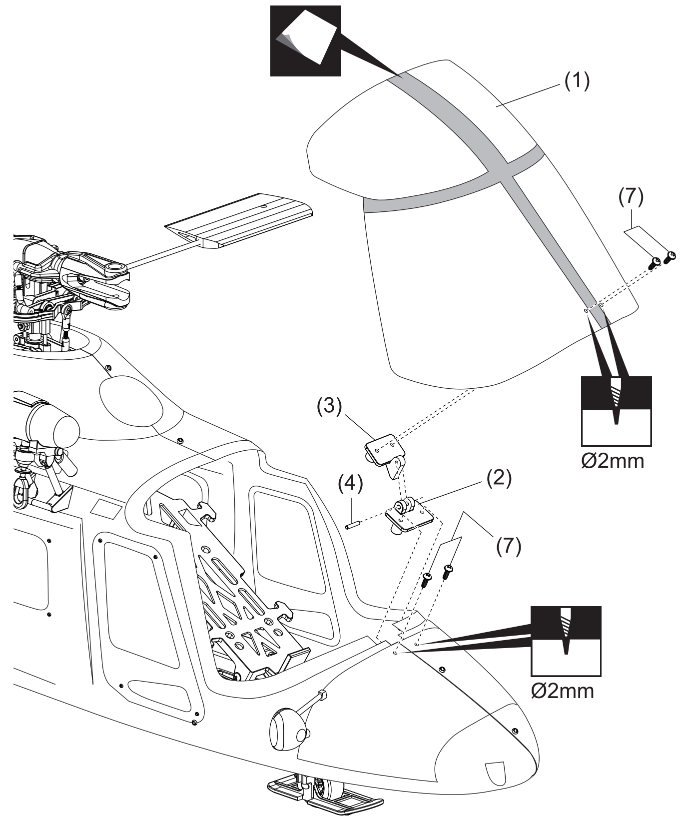
No.	Material No.	Description	中文名稱	Qty
1	BK1828	CANOPY	機艙罩	1
2	BK1813	UPPER CANOPY PIN	機艙卡榫下	1
3	BK1814	LOWER CANOPY PIN	機艙卡榫上	1
4	HMY16-8	PIN 1.6x8	軸承滾針 1.6×8	1

No.	Material No.	Description	中文名稱	Qty
5	BC0988	MAGNET SET 8×4.2×1.4mm	強力磁鐵 8×4.2×1.4mm	4
6	BK1839	CANOPY MAGNET	機艙磁片	4
7	HNN2-6B	TAPPING SCREW(W/WASHER) M2×6	墊圈自攻螺絲(粗)M2×6	4

1. Please bend the canopy magnet a little and attach it inside the canopy as shown.
2. Attach the magnet inside the body as shown.
3. Please make sure that the canopy magets are on the top of the magnets when it is closed.

1. 機艙磁片須自行彎曲，依圖示貼於機艙罩內側。
2. 強力磁鐵依圖示黏貼於機身內側。
3. 請注意機艙磁片與強力磁鐵黏位置，在機艙罩關閉時須兩兩對齊。





Apply C.A Glue
使用快乾膠黏合

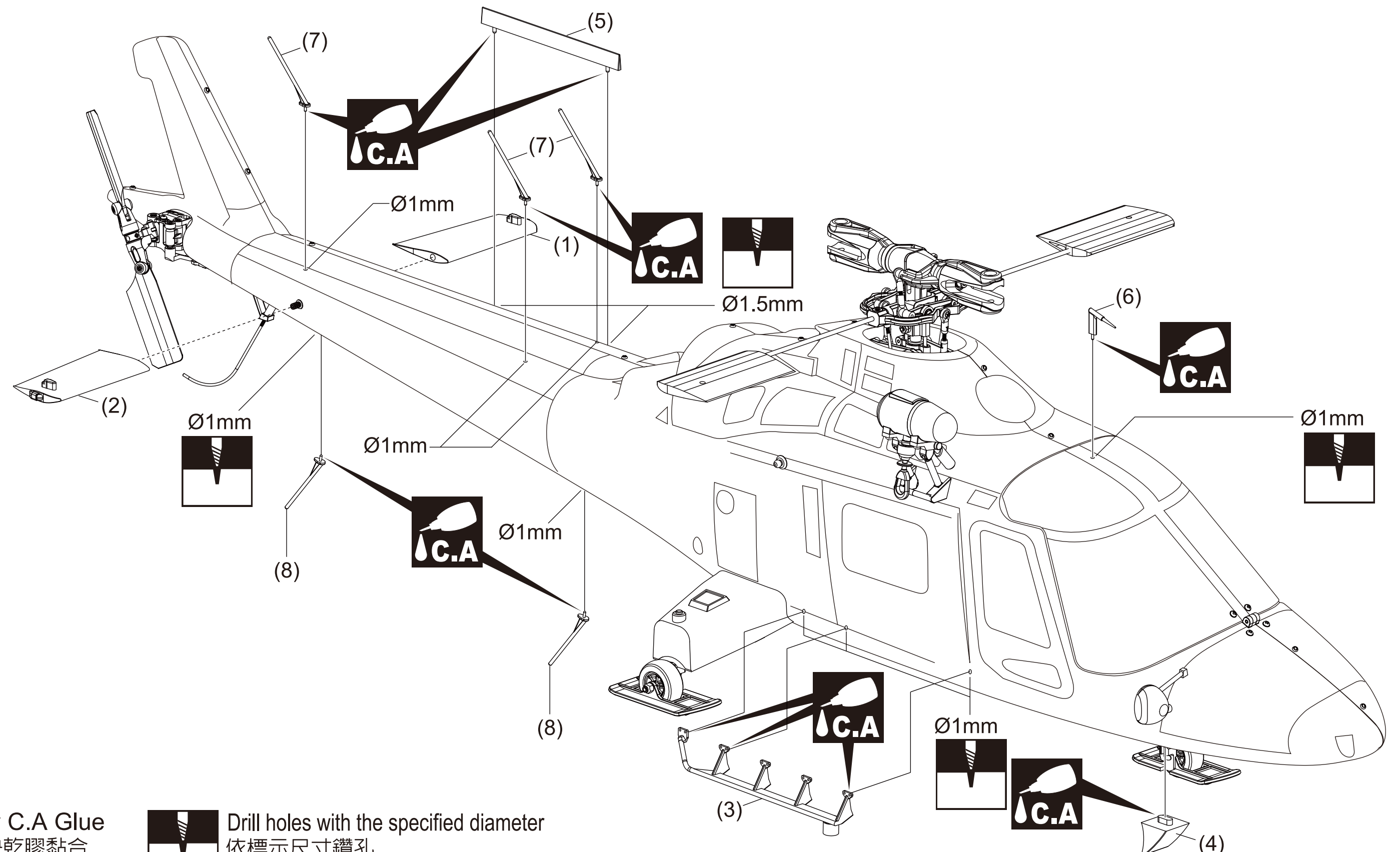
Decal apply
貼紙優先黏貼處

Drill holes with the specified diameter
依標示尺寸鑽孔

ACCESSORIES ASSEMBLY / 配件組裝（二）

No.	Material No.	Description	中文名稱	Qty
1	BK1804	LEFT H. FIN	水平尾翼-左	1
2	BK1805	RIGHT H. FIN	水平尾翼-右	1
3	BK1808	FOOT STEP	腳踏板	1
4	BK1816	SEARCH LIGHT	探照燈	1

No.	Material No.	Description	中文名稱	Qty
5	BK1818	ANTENNA(C)	尾飾板	1
6	BK1823	L-TYPE ANTENNA	L型天線	1
7	BK1824	ANTENNA(A)	天線A	3
8	BK1825	ANTENNA(B)	天線B	2



C.A Apply C.A Glue
使用快乾膠黏合

Drill holes with the specified diameter
依標示尺寸鑽孔

MAIN BLADE ASSEMBLY / 主旋翼組裝

No.	Material No.	Description	中文名稱	Qty
1	BK1061-W	Main Rotor Blade	木質主旋翼	2
2	BK1067	Upper Blade Grip	上夾片	2
3	BK1068	Lower Blade Grip	下夾片	2

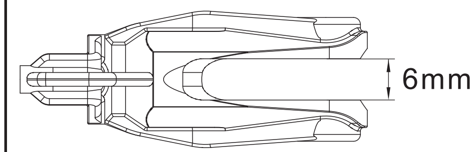
No.	Material No.	Description	中文名稱	Qty
4	HSP16-6N	Countersunk Screw M1.6x6	十字自攻螺絲M1.6x6	2
5	HMC3-20B	Socket Screw M3x20	內六角螺絲M3x20	2
6	HMM3Z	M3 Nylon nut	M3防鬆螺帽	2

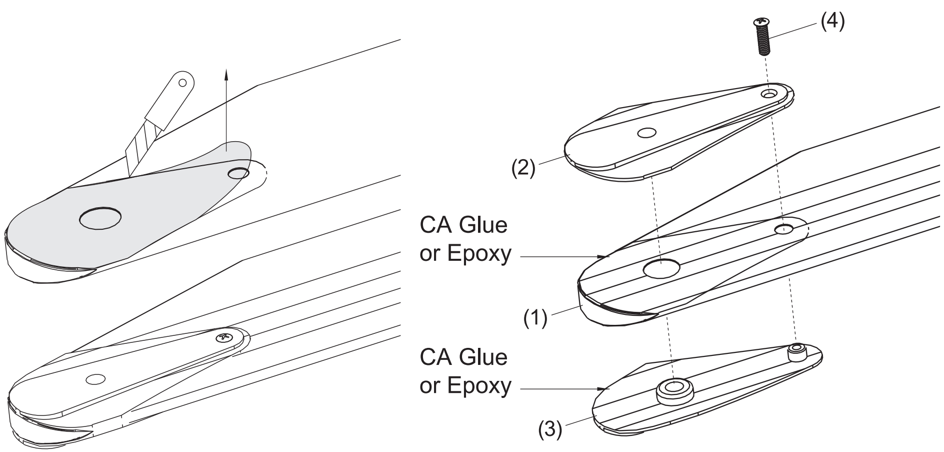
Step 1

1.For safety concern, be sure to modify the main blades as following.
2.Mark around the blade grips with a felt tip marker.
3.Remove the blade grips and cut the covering gently around 1mm inside of the mark. Be careful not to hurt the blades.
4.Sand the inside of the grips lightly for better adhesion. Apply CA or Epoxy to blades in area as shown.
5.Attach blade grips and tighten the screws.
6.Wipe off the excess CA or Epoxy.

1.為安全起見，請依下列步驟，正確黏貼主旋翼上下夾片。
2.在主旋翼根部，依上下夾片，在膠膜上描出輪廓線。
3.沿著輪廓線用美工刀，小心的移除夾片區膠膜（注意不要刮傷木槳）。
4.上下夾片固定鎖緊後，在周圍點上快乾。
5.若使用AB膠，則先塗在木槳上，再將夾片鎖緊。
6.將夾片周圍擦拭乾淨。

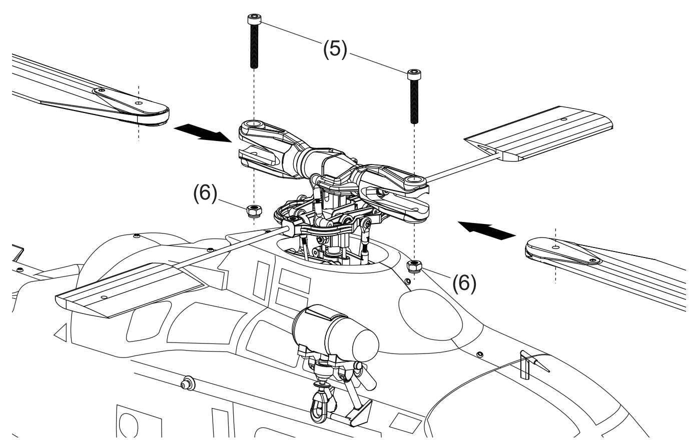
Note:



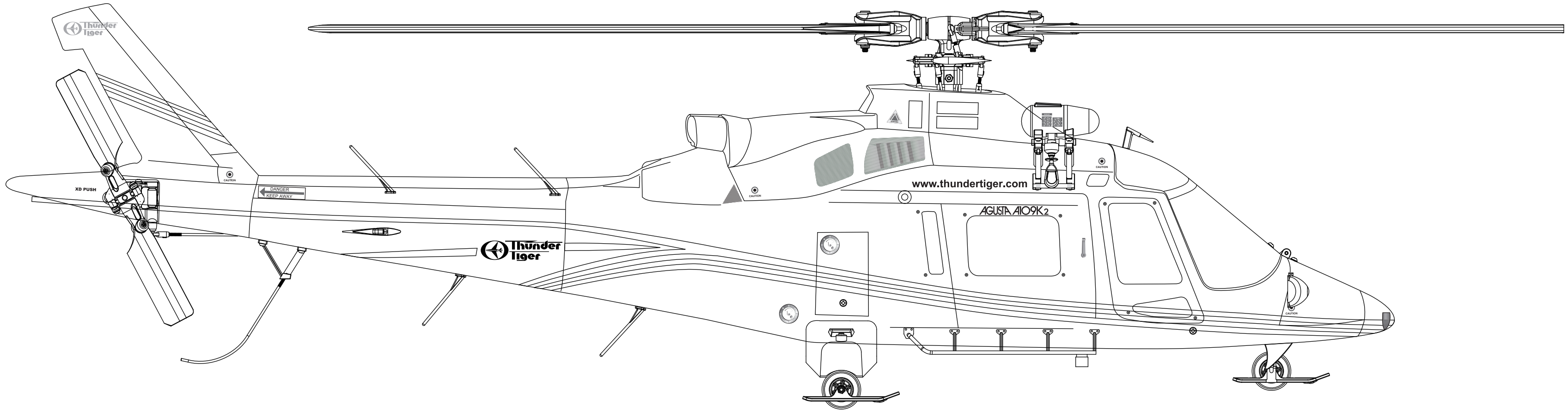


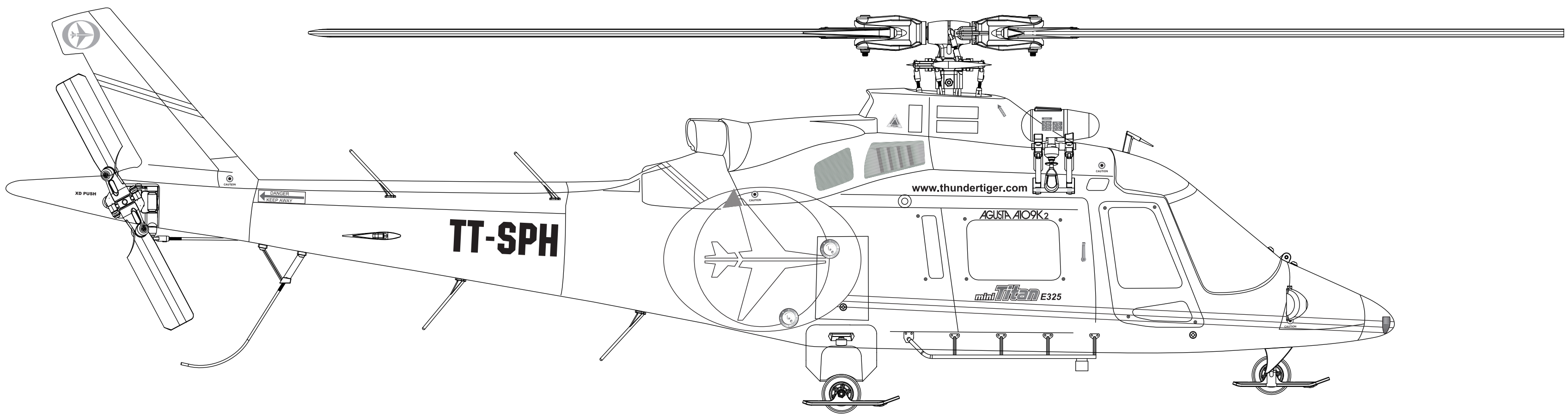
Step 2

1. Secure the blades to the Main Rotor Pitch Housing.
2. It is suggested to balance the blades.
1. 將主旋翼鎖在主旋翼夾座上。
2. 建議主旋翼使用前，進行配重平衡。



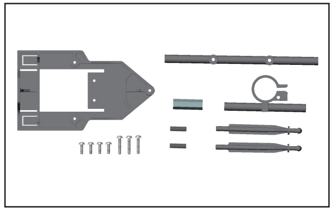
APPLYING DECALS / 機身貼紙



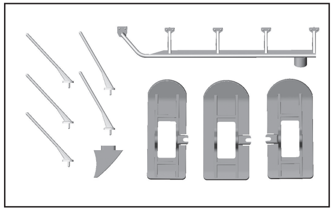


A109 CONVERSION KIT SPARE PARTS / 維修零件包

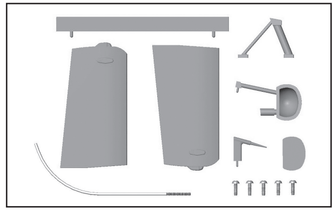
Thunder Tiger



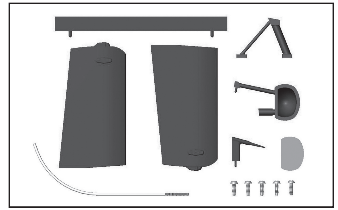
PV1201 BODY RACK SET
機身支架組



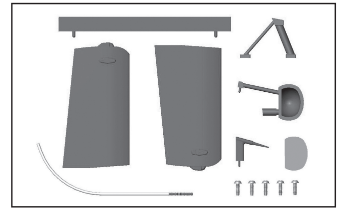
PV1202 SCALE PARTS A
機身零件組A



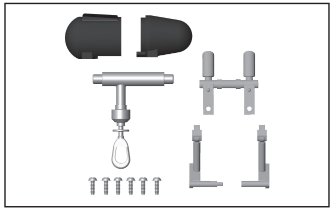
PV1203 SCALE PARTS B
機身零件組B



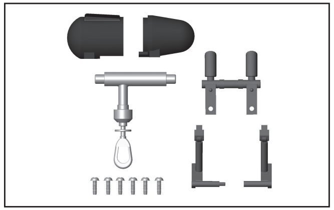
PV1203-L SCALE PARTS B(BLUE)
機身零件組B (藍色)



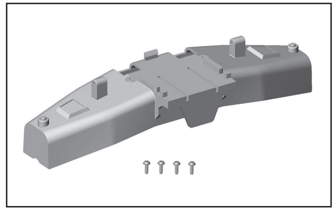
PV1203-R SCALE PARTS B(RED)
機身零件組B (紅色)



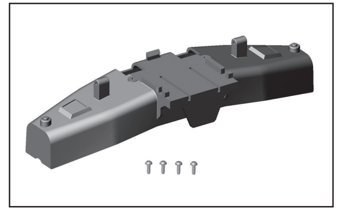
PV1204 RESCUE HOIST SET
纜繩器組



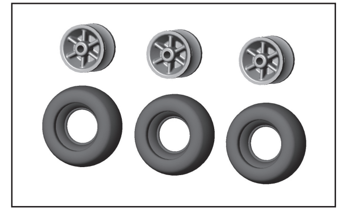
PV1204-R RESCUE HOIST SET(RED)
纜繩器組 (紅色)



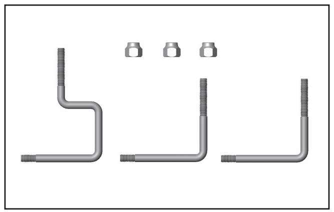
PV1205 REAR GEAR SET
後輪座



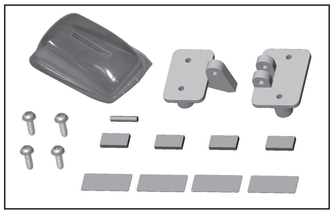
PV1205-L REAR GEAR SET(BLUE)
後輪座 (藍色)



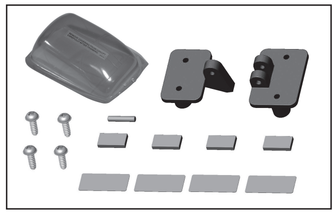
PV1206 WHEEL SET
輪胎組



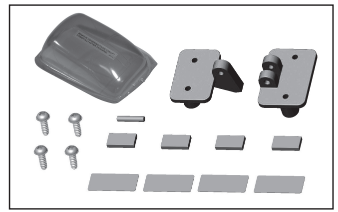
PV1207 LANDING GEAR SET
腳架組



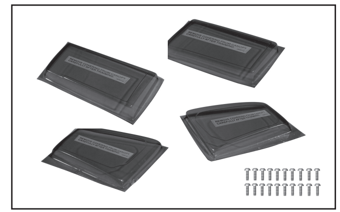
PV1208 FRONT CANOPY SET
前機艙組



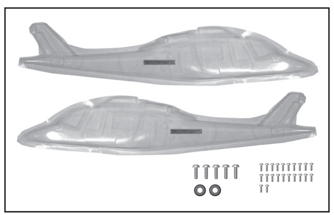
PV1208-L FRONT CANOPY SET(BLUE)
前機艙組 (藍色)



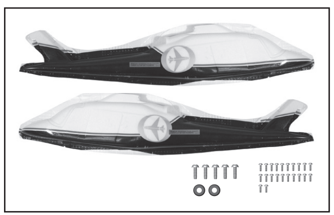
PV1208-R FRONT CANOPY SET(RED)
前機艙組 (紅色)



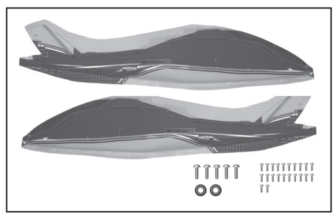
PV1209 WINDOW SET
機身玻璃組



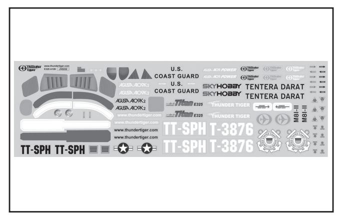
PV1210 BODY SET(PELLUCID)
機身組（透明）



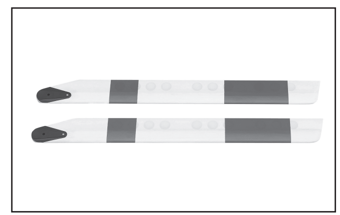
PV1210-L BODY SET(BLUE,WHITE)
機身組 (藍白)



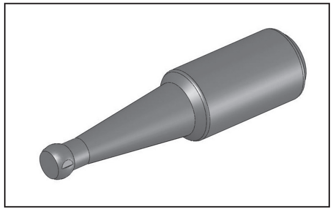
PV1210-R BODY SET(RED,WHITE)
機身組 (紅白)

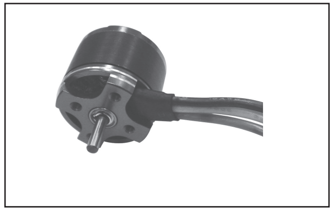


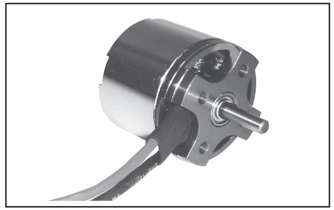
PV1211 A109 Decal
A109機身貼紙



PV1212 MAIN ROTOR BLADE(RED,WHITE)
主旋翼 (紅白)


1198 BALL LINK REAMER
D3.8mm球頭擴孔器


2381 BL. MOTOR, OBL 29/35-10H
無刷馬達（3500kv）

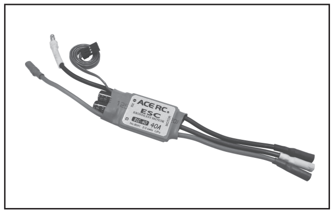

2382 BL. MOTOR, OBL 29/37-10H
無刷馬達（3700kv）



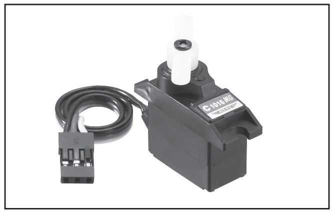
2532 Li-Po BATTERY E-CHARGER ELC 4
鋰電池充電器



2808 LI-PO BATT,3S1P/2200mAh/20C
鋰電池

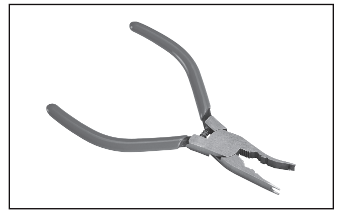


8041-H SPEED CONTROL, ACE BLC-40
速控器（40A）

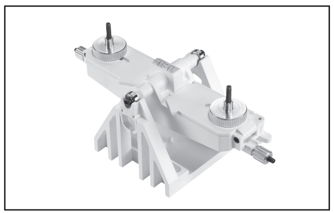

8117 ACE RC MICRO SERVO , C1016
迷你伺服機

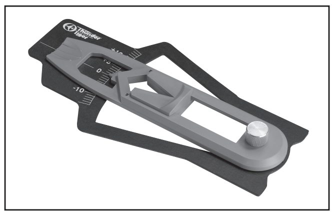


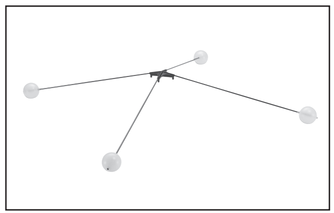
8131 ACE RC MICRO SERVO , C0915
尾伺服機

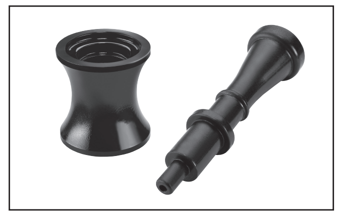

1075 BALL LINK PLIERS
連專用鉗（Ø3.8mm）


1076 BALL LINK WRENCH
單頭連接板手

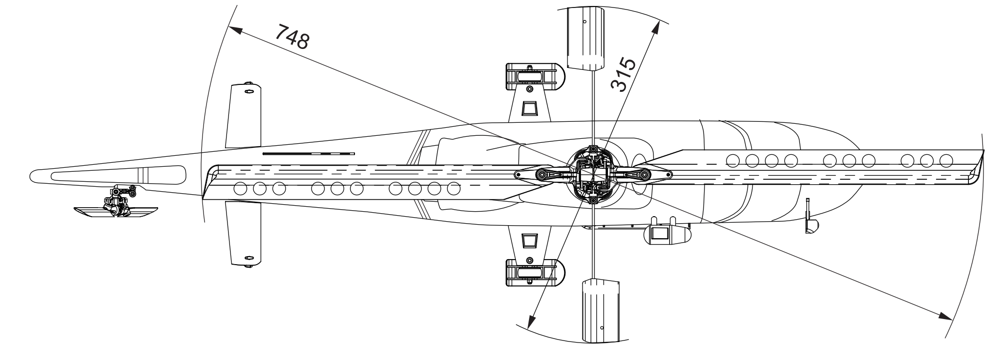

1077 BLADE BALANCER
主旋翼平衡器


1078 PITCH GAUGE
螺距尺

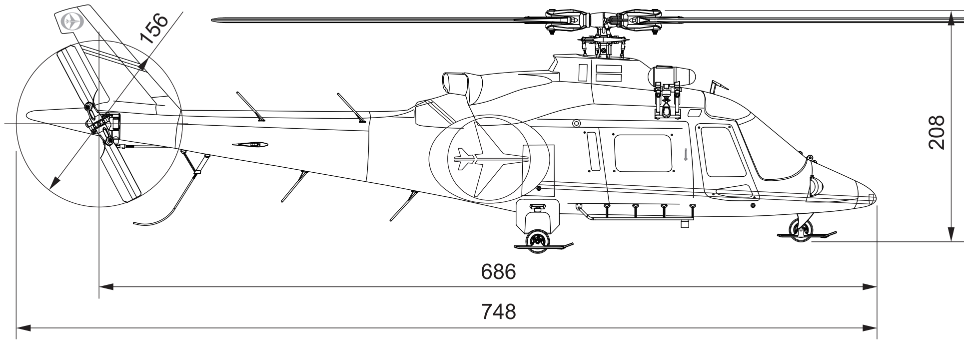

1079 TRAINING GEAR
練習架

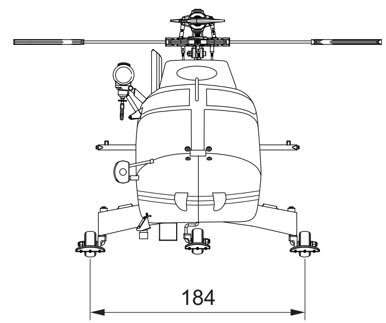

1080 ONE WAY BEARING RELEASER
單向軸承退出器

SPECIFICATION / 規格



Fuselage length: 27" (686 mm)
Fuselage width: 7.2" (184mm)
Total height: 8.2" (208mm)
Main rotor dia.: 29.45" (748mm)
Tail rotor dia.: 6.14" (156mm)
Gear ratios: 1 : 11.5 : 4.4
Full equipped weight: 900g (31.7 oz)





FEATURES / 特點

1. Light PVC Body, easy to assemble.
2. Exclusive quick-open hatch cover to access battery.
3. Available in 2 great paint schemes or clear body.
4. Full-scale rotor blades.
5. Scale rear view mirrors, searchlights, snow skis kit mounted on landing gears, rescue hoist & footstep.
6. Other scale details include antenna, horizontal stabilizer & slump protection pads kit.
7. Designed for Thunder Tiger mini Titan Series.

1. 輕量化PVC材質機殼，組裝便利。
2. 上掀式艙座蓋設計，電池更換容易。
3. 兩款像真塗裝及透明機殼可供選擇。
4. 高像真外觀主旋翼。
5. 高像真後視鏡、探照燈、雪橇型起落輪架、救援纜繩組及腳踏。
6. 細部零件包含天線、水平尾翼及尾旋翼防撞桿組。
7. 適用於mini Titan E325系列直昇機。

THUNDER TIGER CORPORATION

www.thundertiger.com

JK0233